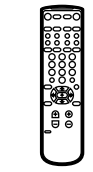
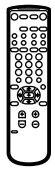
SERVICE MANUAL RA-2A CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.
KP-41T65K	RM-Y149A	Korea	SCC-N94A-A
KP-41T65T	RM-Y136A	Taiwan	SCC-N95A-A
KP-53S65T	RM-Y136A	Taiwan	SCC-N95B-A

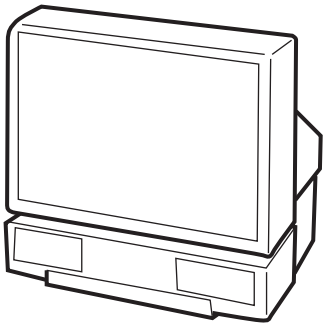
MODEL	COMMANDER	DEST.	CHASSIS NO.
KP-48V75K	RM-Y901K	Korea	SCC-N94B-A
KP-53V75K	RM-Y901K	Korea	SCC-N94C-A



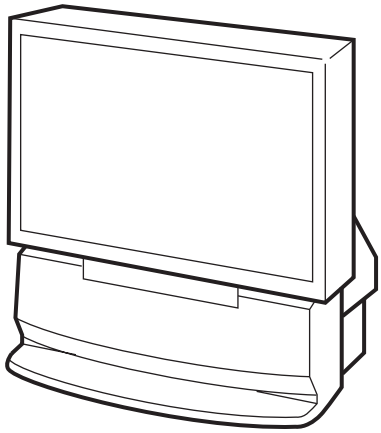
RM-Y901K



RM-Y136A/Y149A



KP-41T65K/41T65T



KP-48V75K/53S65T/53V75K

MICROFILM

* Please file according to model size. ..... ☐

41 48 53

Color Rear Video Projector

SONY®

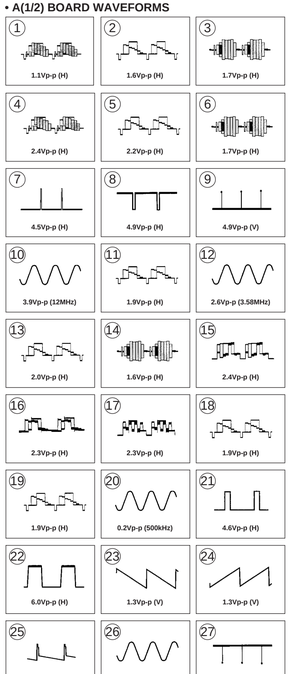
A(1/2) BOARD IC VOLTAGE LIST

REF.	Pin NO.	VOL.	REF.	Pin NO.	VOL.	REF.	Pin NO.	VOL.	REF.	Pin NO.	VOL.	REF.	Pin NO.	VOL.
	①	0		㊽	4.1		㉜	4.8		㊽	0		㊽	4.4
	②	0	IC001	㊾	0		㉝	3.9		㊾	5.0	IC401	㊾	4.4
	③	0		㊿	3.6		㉞	4.4		㊿	5.0		①	5.1
	④	0		①	4.9		㉟	3.9		①	5.0		①	12.1
	⑤	0		②	4.7		㊱	4.3		②	5.0		②	12.1
	⑥	4.2		③	0		㊲	4.3		③	6.7		③	12.1
	⑦	0		④	0		㊳	GND		④	0.9	IC402	④	GND
	⑧	0		⑤	GND		㊴	GND		⑤	6.5		⑤	12.1
	⑨	0		⑥	2.4		㊵	GND		⑥	0.8		⑥	12.1
	⑩	0		⑦	2.1		㊶	GND		⑦	6.7		⑦	12.1
	⑪	0		⑧	4.9		㊷	4.7		⑧	0.8		⑧	24.3
	⑫	4.9		⑨	GND		㊸	4.6		⑨	4.1		①	12.1
	⑬	4.3		⑩	GND		㊹	GND		⑩	1.5		②	12.1
	⑭	0		⑪	GND		㊺	4.2		⑪	5.4		③	12.1
	⑮	5.0	IC002	⑫	GND		㊻	4.4		⑫	0.6	IC403	④	GND
	⑯	GND		⑬	GND		㊼	4.0		⑬	2.9		⑤	12.1
	⑰	2.5		⑭	4.8		㊽	4.3		⑭	3.0		⑥	12.1
	⑱	2.2		⑮	GND	IC301	㊾	4.3		⑮	3.8		⑦	12.1
	⑲	0		⑯	GND		㊿	8.9		⑯	4.2		⑧	24.3
	⑳	5.0	IC201	①	4.7		①	4.7		⑰	4.6		①	1.6
	㉑	2.1		②	4.6		②	GND		⑱	8.7		②	0
	㉒	2.2		③	4.6		③	4.7		⑲	3.4		③	GND
	㉓	0		④	4.5		④	GND		⑳	3.4		④	0
	㉔	0		⑤	GND		⑤	GND		㉑	4.1		⑤	1.6
	㉕	GND		⑥	GND		⑥	0		㉒	4.1	IC404	⑥	10.9
	㉖	1.7		⑦	GND		⑦	3.9		㉓	2.3		⑦	15.3
	㉗	2.6		⑧	4.9		⑧	4.4		㉔	GND		⑧	3.6
	㉘	2.3		⑨	4.9		⑨	4.3		㉕	2.6		⑨	32.2
	㉙	5.0		⑩	4.3		⑩	4.3		㉖	2.7		⑩	GND
IC001	㉚	1.8	IC003	⑪	GND		⑪	3.5		㉗	3.9		⑪	2.8
	㉛	0		⑫	5.0		⑫	4.4		㉘	3.0		⑫	14.7
	㉜	0		⑬	5.0		⑬	3.1		㉙	5.7		①	8.9
	㉝	0		⑭	GND		⑭	GND		㉚	0.3	IC1101	⑤	GND
	㉞	0	IC004	⑮	GND		⑮	4.7		㉛	0		⑥	5.0
	㉟	0		⑯	4.9		⑯	4.3		㉜	GND		①	1.2
	㊱	0		①	4.9		①	4.2		①	GND		②	14.8
	㊲	0		②	GND		②	4.3		②	4.4		③	-14.2
	㊳	0		③	GND		③	4.3		③	4.4	IC1501	④	-15.3
	㊴	0		④	GND		④	4.2		④	4.4		⑤	0.4
	㊵	0	IC007	⑤	GND		⑤	4.4		⑤	4.4		⑥	14.8
	㊶	0		⑥	4.6		⑥	4.4		⑥	4.4		⑦	1.3
	㊷	0		⑦	4.5		⑦	4.4		⑦	4.4		⑧	-0.3
	㊸	0		⑧	GND		⑧	4.4		⑧	4.4		⑨	0
	㊹	2.7	IC202	①	5.0		①	4.4		⑨	4.4		⑩	0
	㊺	2.7		②	3.9		②	4.4		⑩	8.9		⑪	GND
	㊻	4.9		③	4.4		③	4.4		⑪	3.9	IC1502	⑫	0
	㊼	4.9		④	3.9		④	4.4		⑫	4.6		⑬	0
	㊽	GND		⑤	4.4		⑤	8.8	IC401	⑬	4.7		⑭	-0.3
	㊾	GND		⑥	4.3		⑥	2.1		⑭	GND		⑮	4.9
	㊿	4.7		⑦	4.8		⑦	5.6		⑮	3.9		⑯	-5.1
	①	0		⑧	3.9		⑧	3.9		⑯	3.9		⑰	10.5
	②	0		⑨	0.4		⑨	3.9	IC1601	⑰	0.8		⑱	GND
	③	4.6	IC201	⑩	3.9		⑩	3.9		⑱	1.9		⑲	8.9
	④	4.5		⑪	4.4		⑪	8.9		⑲	0		⑳	10.5
	⑤	4.5		⑫	4.3	IC301	⑫	4.8		⑳	0		㉑	11.9
	⑥	4.7		⑬	4.8		⑬	4.8	IC1602	㉑	4.4		㉒	GND
	⑦	5.0		⑭	3.9		⑭	0		㉒	4.4		㉓	5.0
	⑧	0		⑮	4.4		⑮	6.4		㉓	4.4		㉔	10.5
	⑨	4.0		⑯	3.9		⑯	6.1	IC1603	㉔	4.4		㉕	GND
	⑩	0		①	4.3		①	6.1		㉕	4.4		㉖	8.9
	⑪	0		②	4.3		②	GND		㉖	4.4		㉗	10.5

•All voltage are in V.

•Pin number which are not described are not used.

• A(1/2) BOARD WAVEFORMS

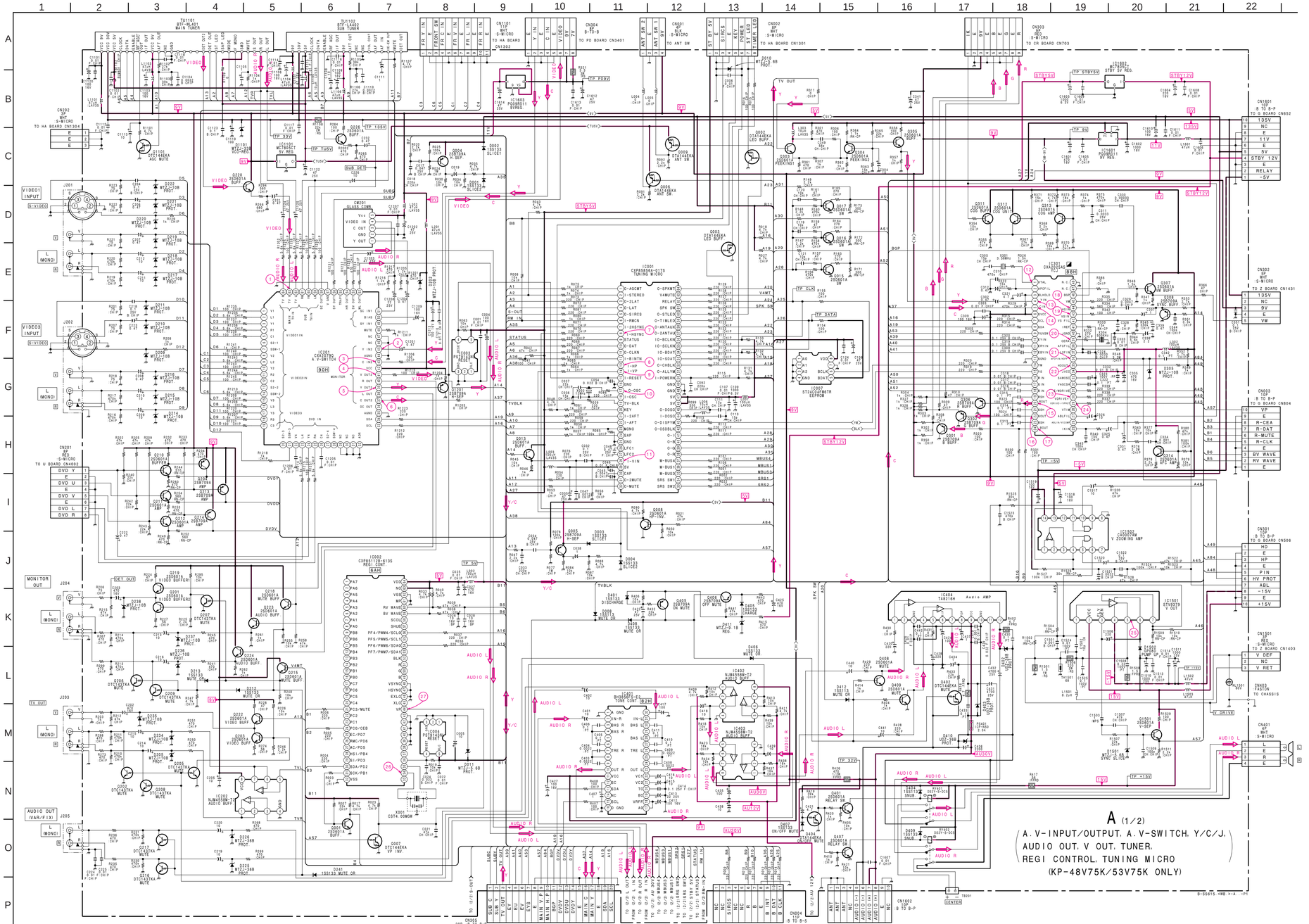


A (1/2) BOARD TRANSISTOR VOLTAGE LIST

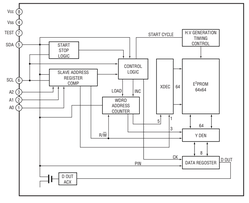
REF.		VOL.	REF.		VOL.	REF.		VOL.
Q001	B	0	Q208	B	0	Q304	B	3.5
	E	GND		E	GND		E	2.9
	C	4.8		C	0		C	6.6
Q002	B	0	Q209	B	0	Q305	B	6.6
	E	2.0		E	GND		E	5.9
	C	GND		C	0		C	8.2
Q003	B	3.8	Q210	B	2.8	Q306	B	1.0
	E	3.8		E	2.1		E	1.7
	C	GND		C	8.2		C	GND
Q004	B	5.4	Q211	B	2.8	Q307	B	5.0
	E	4.9		E	2.2		E	4.4
	C	1.0		C	8.2		C	8.9
Q005	B	4.9	Q212	B	2.8	Q308	B	4.0
	E	4.9		E	2.2		E	4.6
	C	0.7		C	8.2		C	GND
Q006	B	8.8	Q213	B	8.2	Q311	B	3.9
	E	8.9		E	8.9		E	5.2
	C	0		C	3.9		C	8.9
Q007	B	0.1	Q214	B	8.2	Q312	B	5.7
	E	GND		E	8.9		E	5.2
	C	4.8		C	3.9		C	8.9
Q008	B	0.1	Q215	B	0	Q313	B	5.3
	E	GND		E	0		E	4.8
	C	4.3		C	8.8		C	7.5
Q009	B	0	Q216	B	0	Q314	B	1.5
	E	5.1		E	GND		E	1.0
	C	4.8		C	0		C	4.4
Q013	B	3.9	Q217	B	0	Q401	B	0
	E	3.2		E	GND		E	14.8
	C	5.0		C	0		B	2.0
Q015	B	GND	Q218	B	0	Q402	E	GND
	E	GND		E	8.8		C	0
	C	0		C	4.3		B	0.2
Q016	B	GND	Q219	B	3.6	Q404	E	GND
	E	GND		E	8.3		C	0
	C	0		C	4.4		B	8.7
Q017	B	GND	Q220	B	3.8	Q405	E	8.6
	E	GND		E	8.9		C	-2.5
	C	0		C	3.6		B	8.7
Q201	B	1.5	Q222	B	4.3	Q406	E	8.6
	E	0.8		E	3.6		C	-2.5
	C	3.6		C	8.1		B	0
Q202	B	0	Q223	B	1.5	Q407	E	GND
	E	GND		E	1.0		C	14.8
	C	0		C	8.9		B	0.7
Q203	B	1.5	Q224	B	1.4	Q408	E	GND
	E	0.9		E	0.9		C	0
	C	3.7		C	8.9		B	0.7
Q204	B	8.2	Q226	B	4.3	Q409	E	GND
	E	8.9		E	3.7		C	0
	C	8.5		C	8.5		B	0
Q205	B	0	Q301	B	0	Q1101	E	GND
	E	GND		E	1.7		C	2.9
	C	1.5		C	GND		B	4.0
Q206	B	0	Q302	B	0	Q1201	E	4.6
	E	GND		E	1.7		C	GND
	C	0		C	GND		B	-0.4
Q207	B	0	Q303	B	0	Q1501	E	0.1
	E	GND		E	2.7		C	14.8
	C	1.5		C	8.9			

•All voltage are in V.

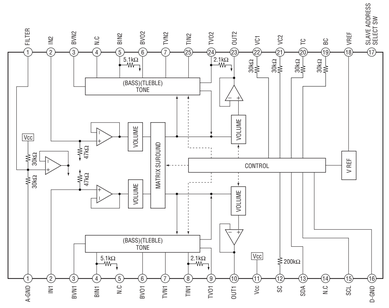
Schematic diagram
A(1/2) board ➡



A(1/2) BOARD : IC007 ST24C04FM6TR



A(1/2) BOARD : IC401 BH3856FS-E2



A(2/2) BOARD IC VOLTAGE LIST

REF.	Pin NO.	VOL.	REF.	Pin NO.	VOL.
IC2101	①	5.0	IC2201	⑨	6.3
	②	4.2		⑩	6.3
	③	5.0		⑪	6.3
	④	0		⑫	6.3
	⑤	0		⑬	6.3
	⑥	0		⑭	12.7
	⑦	0		⑮	GND
	⑧	0		⑯	0
	⑨	0	IC2201	⑰	0
	⑩	0		⑱	6.3
	⑪	0		⑲	6.3
	⑫	0.5		⑳	6.3
	⑬	GND		㉑	6.3
IC2201	①	6.3		㉒	6.3
	②	6.3		㉓	6.3
	③	6.3		㉔	6.3
	④	6.3		㉕	6.3
	⑤	6.3		㉖	6.3
	⑥	6.3		㉗	6.3
	⑦	6.3		㉘	6.3
	⑧	6.3	IC2202	①	25.9
	⑨	6.3		②	0.7
	⑩	6.3		③	12.7

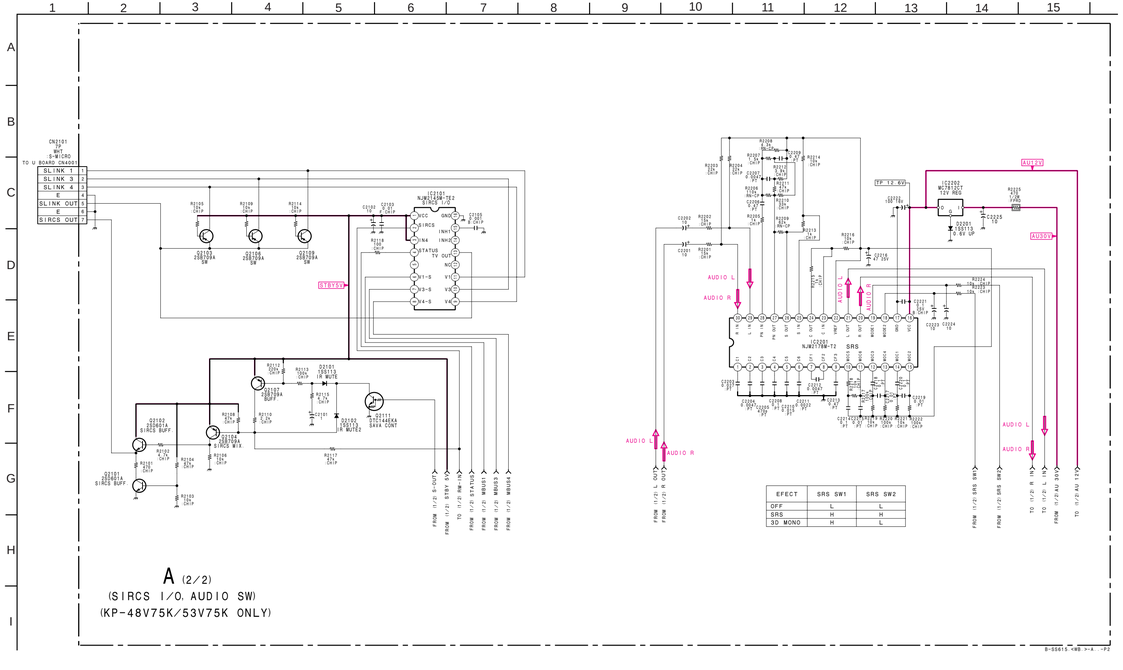
•All voltage are in V.

•Pin number which are not described are not used.

A (2/2) BOARD TRANSISTOR VOLTAGE LIST

REF.		VOL.
Q2101	B	0.7
	E	GND
	C	0.3
Q2102	B	4.8
	E	4.2
	C	5.0
Q2103	B	5.0
	E	0
	C	0
Q2104	B	4.3
	E	5.0
	C	5.0
Q2106	B	5.0
	E	0
	C	0
Q2107	B	4.7
	E	5.0
	C	4.6
Q2109	B	5.0
	E	0
	C	0
Q2111	B	0.1
	E	GND
	C	3.8

•All voltage are in V.



A BOARD IC VOLTAGE LIST

REF.	Pin NO.	VOL.	REF.	Pin NO.	VOL.	REF.	Pin NO.	VOL.	REF.	Pin NO.	VOL.
IC001	①	0	IC001	㉘	4.7	IC301	①	4.9	IC401	㉘	5.0	IC402	㉘	4.9
	②	0		㉙	8.8		②	4.2		㉙	5.0		㉙	4.4
	③	0		㉚	0		③	4.8		㉚	8.8		㉚	4.4
	④	0		㉛	3.7		④	4.7		㉛	6.7		㉛	4.4
	⑤	0		㉜	0		⑤	5.0		㉜	0.9		㉜	4.4
	⑥	4.8		㉝	0		⑥	4.2		㉝	6.5		㉝	4.4
	⑦	0		㉞	4.1		⑦	5.0		㉞	0.8		㉞	4.4
	⑧	0		㉟	0		⑧	4.2		㉟	6.7		㉟	5.1
	⑨	0		㊱	4.4		⑨	4.8		㊱	0.8		①	4.4
	⑩	0		㊲	4.9		⑩	4.7		㊲	4.1		②	4.4
	⑪	4.9		㊳	4.7		⑪	4.8		㊳	1.5		③	4.4
	⑫	4.3		㊴	0		⑫	4.2		㊴	5.4		④	GND
	⑬	0		㊵	0		⑬	GND		㊵	0.6		⑤	4.4
	⑭	4.9		㊶	GND		⑭	GND		㊶	2.9		⑥	4.4
	⑮	GND		㊷	2.4		⑮	GND		㊷	3.0		⑦	4.4
	⑯	2.4		㊸	2.1	IC201	⑯	GND	IC301	㊸	3.8		⑧	9.0
	⑰	2.1		㊹	4.9		⑰	4.8		㊹	4.2		①	1.4
	⑱	0		㊺	GND		⑱	4.8		㊺	4.6		②	3.0
	⑲	4.9		㊻	GND		⑲	GND		㊻	8.7		③	15.3
	⑳	2.3		㊼	GND		⑳	4.3		㊼	3.4		④	3.1
	㉑	2.4		㊽	GND		㉑	6.9		㊽	3.4	IC403	⑤	1.4
	㉒	0		㊾	GND		㉒	4.2		㊾	4.1		⑥	0
	㉓	0	IC002	㊿	4.8		㉓	4.2		㊿	4.1		⑦	0.2
	㉔	GND		㋀	GND		㉔	4.2		㋀	2.3		⑧	28.2
	㉕	1.8		㋁	GND		㉕	6.2		㋁	GND		①	0.1
	㉖	1.9		㋂	GND		㉖	4.8		㋂	2.6		②	GND
	㉗	2.2		㋃	4.8		㉗	GND		㋃	2.7		③	9.0
	㉘	5.0		㋄	4.8		㉘	5.7		㋄	3.9	IC1101	④	GND
	㉙	1.9		㋅	2.2		㉙	4.3		㋅	3.0		⑤	5.3
	㉚	0		㋆	2.8		㉚	4.2		㋆	5.7		①	1.2
	㉛	0		㋇	2.2		㉛	5.1		㋇	0.3		②	14.4
	㉜	0		㋈	2.2		㉜	GND		㋈	GND		③	-14.0
	㉝	0		㋉	GND		㉝	4.3		㋉	GND	IC1501	④	-15.4
	㉞	0		㋊	GND		㉞	4.4		㋊	GND		⑤	0.8
	㉟	0		㋋	4.9		㉟	8.9		㋋	4.4		⑥	14.5
	㊱	0		㋌	4.9		㊱	3.5		㋌	4.4		⑦	1.2
	㊲	0		㋍	GND		㊲	4.2		㋍	4.4		⑧	-0.3
	㊳	0		㋎	GND		㊳	5.2		㋎	4.4	IC1502	⑧	0
	㊴	0	IC003	㋏	4.9		㊴	4.2		㋏	4.4		⑨	0
	㊵	0		㋐	5.0		㊵	2.1		㋐	4.4		⑩	GND
	㊶	0		㋑	GND		㊶	5.6		㋑	4.4		⑪	0
	㊷	0		㋒	GND		㊷	3.9		㋒	4.4		⑫	0
IC004	①	2.7		㋓	4.9	IC401	①	4.4		㋓	9.0		⑬	-0.3
	②	2.7		㋔	4.9		②	3.5		㋔	3.8		⑭	4.9
	③	4.9		㋕	GND		③	8.8		㋕	4.8		⑮	-5.1
	④	4.9		㋖	GND	IC301	①	4.8		㋖	4.8	IC1601	⑧	10.9
	⑤	GND		㋗	GND		②	4.8		㋗	GND		⑨	GND
	⑥	GND		㋘	GND		③	0		㋘	3.9		⑩	9.0
	⑦	4.7		㋙	4.8		④	6.4		㋙	3.9	IC1602	①	11.9
	⑧	0		㋚	4.8		⑤	6.1		㋚	1.8		②	GND
	⑨	0		㋛	GND		⑥	GND		㋛	1.8		③	5.0
	⑩	4.7		㋜	5.0		⑦	GND		㋜	0			
IC201	⑪	4.7		㋝	4.9		⑧	0		㋝	4.4			
	⑫	4.7		㋞	4.2									

•All voltage are in V.

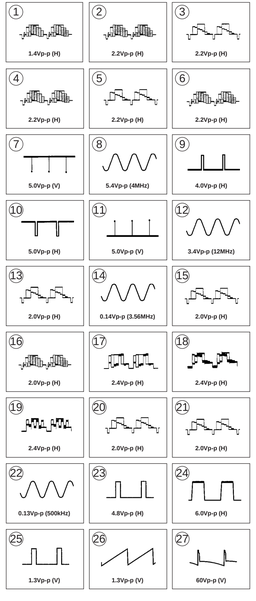
•Pin number which are not described are not used.

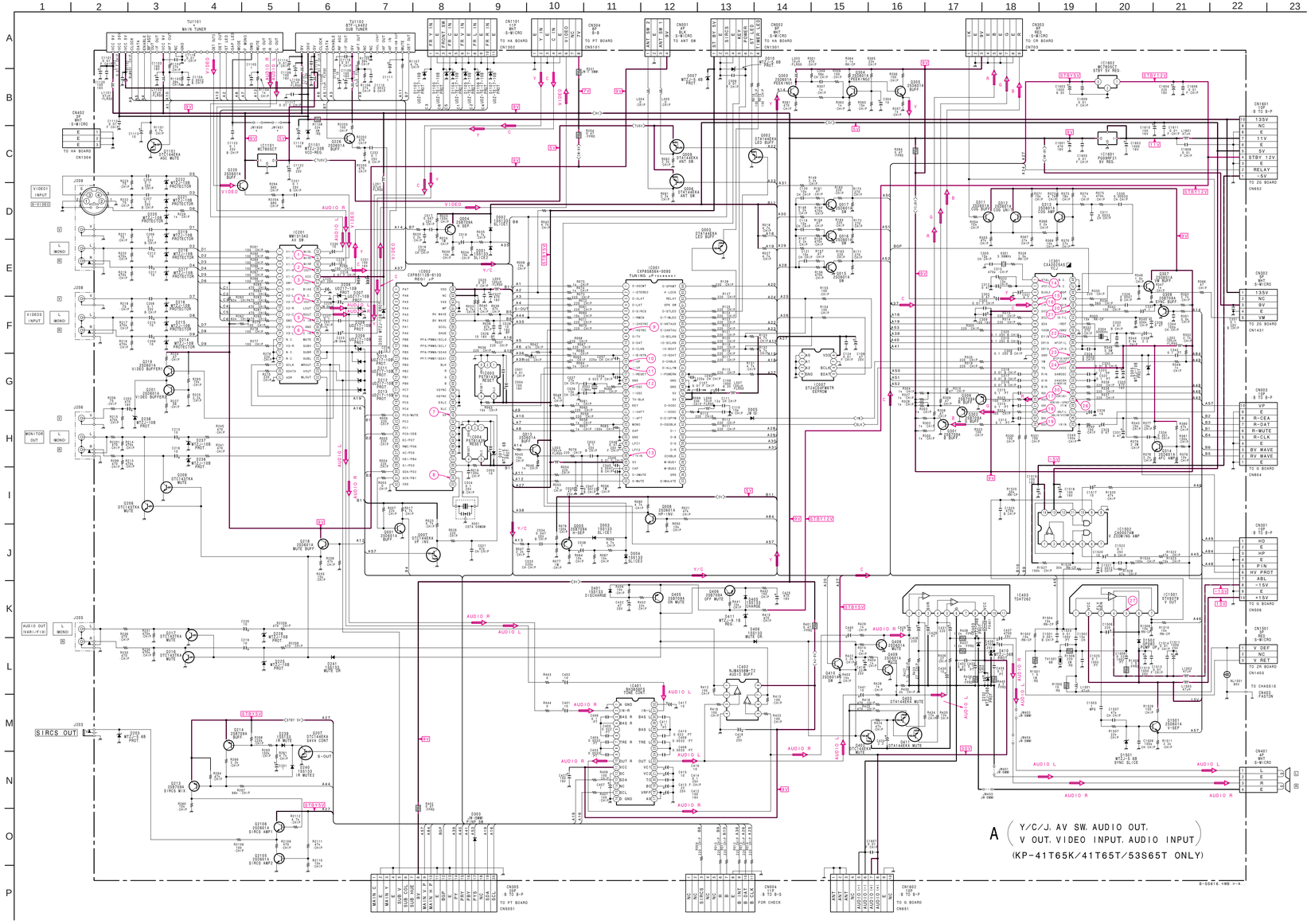
A BOARD TRANSISTOR VOLTAGE LIST

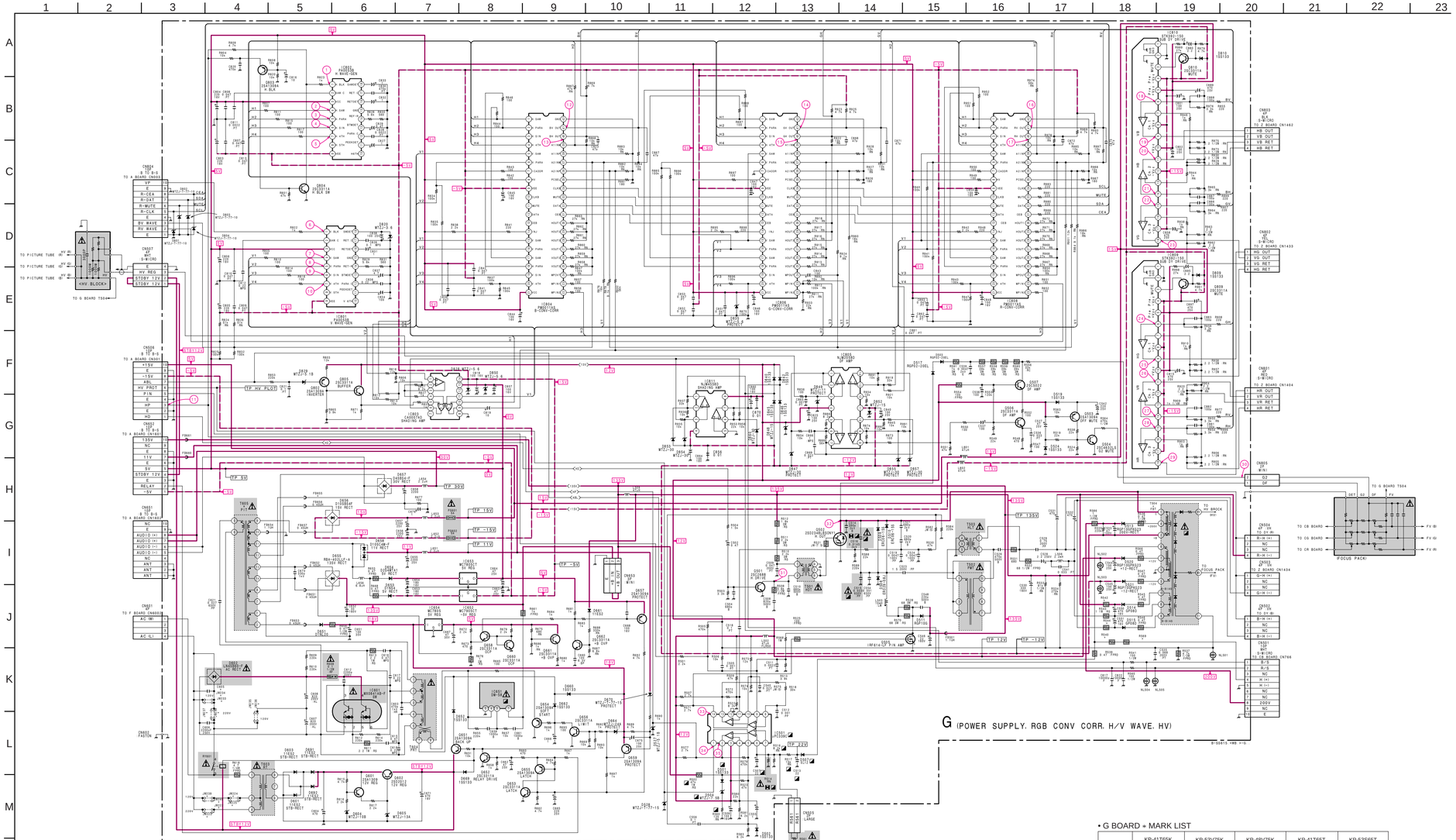
REF.		VOL.	REF.		VOL.	REF.		VOL.	REF.		VOL.
Q001	B	0	Q213	B	4.9	Q312	B	5.7	Q403	B	5.7
	E	GND		E	5.0		E	5.1		E	5.1
	C	4.8		C	5.0		C	8.8		C	8.8
Q002	B	0	Q214	B	5.0	Q313	B	5.3	Q404	B	5.3
	E	2.0		E	5.0		E	4.8		E	4.8
	C	GND		C	4.9		C	7.7		C	7.7
Q003	B	3.8	Q216	B	0	Q314	B	1.5	Q405	B	1.5
	E	3.8		E	GND		E	0.9		E	0.9
	C	GND		C	0		C	4.5		C	4.5
Q004	B	5.4	Q217	B	0	Q402	B	3.6	Q406	B	3.6
	E	4.9		E	GND		E	GND		E	GND
	C	1.0		C	0		C	0		C	0
Q005	B	4.9	Q218	B	0	Q403	B	13.2	Q407	B	13.2
	E	4.9		E	0		E	26.3		E	26.3
	C	0.7		C	8.9		C	26.2		C	26.2
Q006	B	8.8	Q219	B	5.1	Q405	B	11.8	Q408	B	11.8
	E	8.9		E	4.5		E	11.9		E	11.9
	C	0		C	8.2		C	-1.3		C	-1.3
Q007	B	0.1	Q220	B	4.8	Q406	B	11.9	Q409	B	11.9
	E	GND		E	4.1		E	11.8		E	11.8
	C	4.8		C	9.0		C	-1.3		C	-1.3
Q008	B	0.1	Q226	B	5.1	Q408	B	3.6	Q410	B	3.6
	E	GND		E	4.4		E	GND		E	GND
	C	4.3		C	9.0		C	8.4		C	8.4
Q009	B	0	Q301	B	0.9	Q409	B	3.6	Q411	B	3.6
	E	5.3		E	1.5		E	GND		E	GND
	C	4.8		C	GND		C	0		C	0
Q013	B	4.3	Q302	B	0.9	Q410	B	3.6	Q1101	B	13.2
	E	3.7		E	1.5		E	3.6		E	26.3
	C	5.0		C	GND		C	4.9		C	26.2
Q015	B	-0.2	Q303	B	4.4	Q411	B	13.2	Q1101	B	0
	E	GND		E	3.8		E	26.3		E	GND
	C	0		C	8.8		C	26.2		C	4.1
Q016	B	-0.2	Q304	B	2.9	Q1101	B	0	Q1501	B	-0.4
	E	GND		E	3.5		E	GND		E	0.1
	C	0		C	6.6		C	4.1		C	14.4
Q017	B	-0.2	Q305	B	5.6	Q1501	B	0.1	Q2105	B	0.6
	E	GND		E	5.9		E	14.4		E	GND
	C	0		C	8.2		B	0.6		C	0
Q201	B	1.5	Q306	B	0.9	Q2105	E	GND	Q2106	B	0
	E	0.8		E	1.6		C	0		E	0
	C	4.5		C	GND		B	0		C	5.0
Q206	B	0	Q307	B	5.0	Q2106	E	0			
	E	GND		E	4.3		C	5.0			
	C	0		C	8.8						
Q207	B	0	Q308	B	4.5						
	E	GND		E	5.1						
	C	5.3		C	GND						
Q209	B	0	Q311	B	4.2						
	E	GND		C	5.1						
	C	0		C	8.8						

All voltages are in V.

• A BOARD WAVEFORMS







G BOARD IC VOLTAGE LIST

REF.	Pin NO.	VOL.	REF.	Pin NO.	VOL.	REF.	Pin NO.	VOL.	REF.	Pin NO.	VOL.	REF.	Pin NO.	VOL.
IC501	①	3.4	IC802	①	0.5	IC804	㉙	0	IC806	㉙	0	IC808	①	0
	②	0.7		②	1.1		㉚	0.5		㉚	0		㉚	0
	③	12.1		③	4.9		㉛	4.7		㉛	0		㉛	0
	④	3.3		④	0		㉜	0.1		㉜	0		㉜	0
	⑤	1.8		⑤	-0.9		㉝	4.9		㉝	0		㉝	-0.2
	⑥	7.9		⑥	0		㉞	4.8		㉞	0.4		㉞	0.4
	⑦	8.1		⑦	-1.0		㉟	0		㉟	4.7		㉟	GND
	⑧	1.4		⑧	-5.1		㊱	0.1		㊱	0.1		①	GND
	⑨	2.2		⑨	0		㊲	0		㊲	4.9		②	GND
	⑩	5.5		⑩	-0.9		㊳	0.3		㊳	4.8		③	-14.3
	⑪	1.8		⑪	0.3		㊴	0		㊴	0		④	-15.3
	⑫	GND		⑫	1.2		㊵	0		㊵	0		⑤	14.5
	⑬	1.4		⑬	GND					㊶	0		⑥	-0.1
	⑭	9.9		⑭	0.2					㊷	0		⑦	-0.1
	⑮	GND		⑮	-1.9					㊸	GND		⑧	-15.3
	⑯	-1.9		⑯	-1.1					㊹	1.2		⑨	-0.2
●IC601	①	136.0	IC803	①	-0.4	IC805	①	7.2		㊺	0		⑩	14.5
	②	274.0		②	-0.4		②	7.2		㊻	0		⑪	0.5
	③	136.0		③	-0.3		③	7.0		㊼	0.1		⑫	-15.3
	④	134.0		④	-0.3		④	12.1		㊽	GND		⑬	0.3
	⑤	134.0		⑤	1.6		⑤	0		㊾	4.8		⑭	0.3
IC651	①	2.4		⑥	0.3		⑥	0		㊿	0		⑮	-0.2
	②	13.8		⑦	GND		⑦	0		(51)	0		⑯	-0.2
	③	GND		⑧	0		⑧	0		(52)	0		⑰	-15.3
IC652	G	GND		⑨	0		⑨	-12.3		(53)	0		⑱	-0.4
	O	-5.1		⑩	0		⑩	0		(54)	4.9		⑲	-0.4
	I	10.6		⑪	4.9		⑪	0		(55)	0		⑳	-5.1
IC653	G	GND		⑫	-5.1		⑫	0.8		(56)	4.9		㉑	GND
	O	4.9		⑬	-0.9		⑬	-0.9		(57)	0		㉒	4.8
	I	18.0		⑭	0		⑭	0		(58)	4.9		㉓	0.1
IC654	G	GND		⑮	-1.0		⑮	-3.0		(59)	0		㉔	14.5
	O	5.0		⑯	0		⑯	0		(60)	0		㉕	14.5
	I	15.7		⑰	-0.4		⑰	-0.4		(61)	0		㉖	-15.3
IC655	G	GND		⑱	-5.1		⑱	GND	IC808	(62)	0		㉗	0.3
	O	11.9		⑲	4.9		⑲	4.9		(63)	-0.9		㉘	14.5
IC801	①	0.2	IC804	⑳	-5.1		⑳	-5.1		(64)	0	IC810	①	0.1
	②	1.2		㉑	-2.2	IC806	㉑	4.8					②	-15.3
	③	4.9		㉒	0		㉒	4.9					③	0
	④	0		㉓	-0.8		㉓	0.1					④	0
	⑤	-0.8		㉔	0		㉔	4.7					⑤	0.1
	⑥	0		㉕	-0.9		㉕	-2.1					⑥	0.1
	⑦	-1.1		㉖	0		㉖	0					⑦	-15.3
	⑧	-5.1		㉗	-0.5		㉗	-0.8					⑧	0.2
	⑨	0.4		㉘	4.9		㉘	0					⑨	0.2
	⑩	-0.9		㉙	-0.1		㉙	0					⑩	-1.2
	⑪	0.3		㉚	0		㉚	-0.5				IC811	①	0.3
	⑫	1.2		㉛	-0.4		㉛	4.9					②	-12.3
	⑬	GND		㉜	0		㉜	-0.4					③	GND
	⑭	-1.5		㉝	0		㉝	0					④	0
	⑮	1.2		㉞	0		㉞	4.9					⑤	0.6
	⑯	-1.6		㉟	0		㉟	0					⑥	12.1

• All voltage are in V.
• Pin number which are not described are not used.
● : The figures in the parenthesis are the voltage difference from primary side ground.

G BOARD TRANSISTOR VOLTAGE LIST

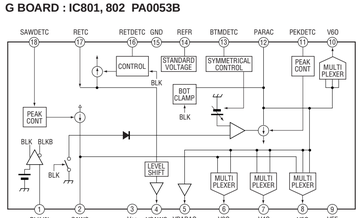
REF.		VOL.	REF.		VOL.
Q501	B	-0.4	Q657	B	4.9
	E	GND		E	4.9
	C	47.0		C	0
Q502	B	0	Q658	B	0.6
	E	GND		E	0.4
	C	140.0		C	4.9
Q503	B	0.5	Q659	B	17.6
	E	2.4		E	17.6
	C	0		C	0
Q504	B	0	Q660	B	0.6
	E	GND		E	GND
	C	0.5		C	0.6
Q505	G	9.9	Q661	B	3.1
	O	21.9		E	2.4
	S	GND		C	5.2
Q506	B	1.7	Q662	B	2.7
	E	1.1		E	2.4
	C	11.3		C	4.9
Q507	B	12.1	Q802	B	4.0
	E	11.5		E	4.9
	C	138.2		C	2.3
Q651	B	11.2	Q803	B	2.3
	E	11.9		E	0.5
	C	11.9		C	0
Q652	B	0.7	Q804	B	0
	E	GND		E	GND
	C	0		C	0.5
Q653	B	0	Q805	B	2.3
	E	GND		E	1.7
	C	1.7		C	12.1
Q654	B	13.6	Q809	E	-15.3
	E	14.0		C	-14.3
	C	GND	Q810	B	-15.3
Q655	B	1.7		E	-15.3
	E	1.7		C	-14.5
	C	0			
Q656	B	0			
	E	GND			
	C	13.6			

All voltages are in V.

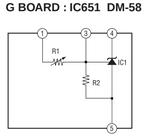
• G BOARD WAVEFORMS

① 4.8Vp-p (H)	② 25.0Vp-p (H)	③ 2.4Vp-p (H)	④ 2.2Vp-p (H)
⑤ 2.4Vp-p (H)	⑥ 5.0Vp-p (V)	⑦ 2.5Vp-p (V)	⑧ 2.5Vp-p (V)
⑨ 2.4Vp-p (V)	⑩ 2.4Vp-p (V)	⑪ 4.8Vp-p (H)	⑫ 2.8Vp-p (V)
⑬ 0.7Vp-p (H)	⑭ 2.6Vp-p (V)	⑮ 0.2Vp-p (H)	⑯ 2.8Vp-p (V)
⑰ 0.6Vp-p (H)	⑱ 2.7Vp-p (V)	⑲ 22.0Vp-p (V)	⑳ 10.0Vp-p (V)
㉑ 0.7Vp-p (H)	㉒ 2.5Vp-p (V)	㉓ 15.0Vp-p (V)	㉔ 0.2Vp-p (H)
㉕ 6.0Vp-p (H)	㉖ 22.0Vp-p (V)	㉗ 2.6Vp-p (V)	㉘ 0.6Vp-p (H)
㉙ 7.0Vp-p (H)	㉚ 500.0Vp-p (V)	㉛ 80.0Vp-p (H)	㉜ 1100Vp-p (H)
㉝ 12.0Vp-p (H)	㉞ 4.8Vp-p (H)	㉟ 4.8Vp-p (H)	

G BOARD : IC801, 802 PA0053B



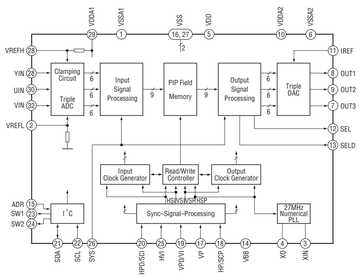
G BOARD : IC651 DM-58



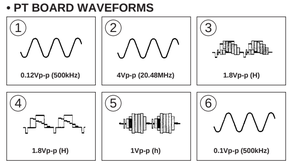
• G BOARD ∗ MARK LIST

	KP-41T65K	KP-53V75K	KP-48V75K	KP-41T65T	KP-53S65T
C605	0.0022 250V	0.0022 250V	–	–	–
FB655	0.45UH	JW (5MM)	JW (5MM)	0.45UH	0.45UH
JW222	10MM	10MM	–	–	–
JW223	10MM	10MM	–	–	–
JW224	–	–	–	12.5MM	12.5MM
JW225	–	–	–	12.5MM	12.5MM
JW233	–	–	–	7.5MM	7.5MM
JW234	–	–	–	7.5MM	7.5MM
JW235	–	–	–	12.5MM	12.5MM
JW236	–	–	–	12.5MM	12.5MM
JW237	12.5MM	12.5MM	–	–	–
JW238	12.5MM	12.5MM	–	–	–
JW239	–	–	–	12.5MM	12.5MM
JW240	–	–	–	12.5MM	12.5MM
R540	0.68	0.47	0.68	0.68	0.68
R542	68 1W RS	150 1W RS	68 1W RS	68 1W RS	150 1W RS
R544	68 1W RS	150 1W RS	68 1W RS	68 1W RS	150 1W RS
R569	1.8 3W RS	1 3W RS	1.8 3W RS	1.8 3W RS	1.8 3W RS
T605	1-429-985-11 PIT	1-429-986-11 PIT	1-429-986-11 PIT	1-429-985-11 PIT	1-429-985-11 PIT

PT BOARD : IC5052 SDA9288X-GEG



• PT BOARD WAVEFORMS



PT BOARD IC VOLTAGE LIST

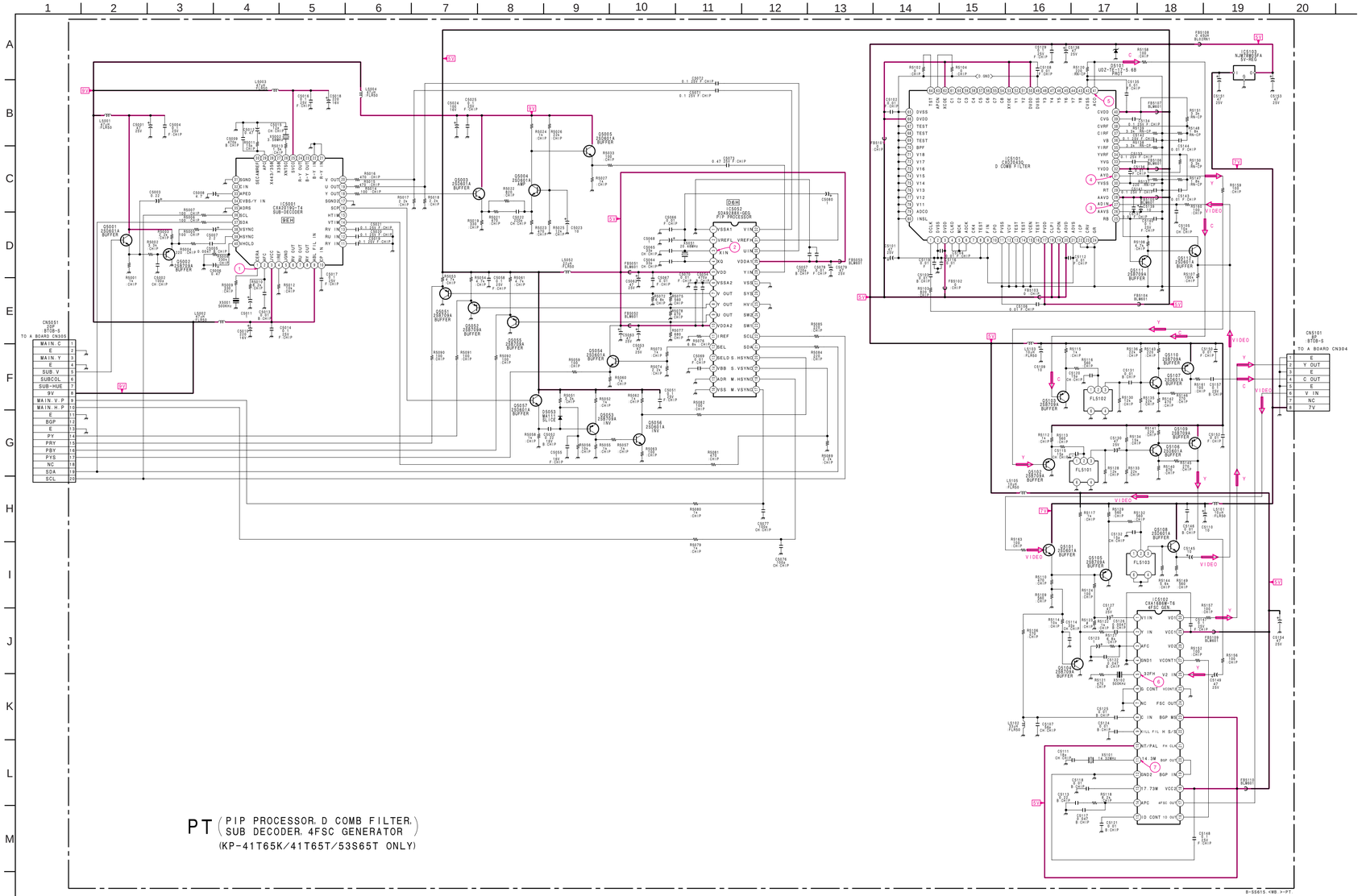
REF.	Pin NO.	VOL.	REF.	Pin NO.	VOL.
IC5001	①	2.3	ICS101	㊾	4.9
	②	4.1		㊿	GND
	③	9.0		(51)	GND
	④	0		(52)	GND
	⑤	GND		(53)	GND
	⑥	9.0		(54)	1.5
	⑦	1.0		(55)	GND
	⑧	3.8		(56)	1.5
	⑨	4.5		(57)	4.9
	⑩	4.6		(58)	2.6
	⑪	0.1		(59)	GND
	⑫	0.7		(60)	0.9
	⑬	GND		(61)	4.9
	⑭	2.8		(62)	2.9
	⑮	2.9		(63)	1.8
	⑯	2.9		(64)	1.8
	⑰	GND		(65)	0.9
	⑱	GND		(66)	0
	⑲	9.0		(67)	0
	⑳	2.4		(68)	4.9
	㉑	4.5		(69)	4.9
	㉒	GND		(70)	0.9
	㉓	3.3		(71)	GND
	㉔	3.6		(72)	GND
	㉕	GND		(73)	4.9
	㉖	4.8		(74)	GND
	㉗	4.8		(75)	4.9
	㉘	4.1		(76)	5.0
	㉙	3.3		(77)	0
	㉚	0.7		(78)	GND
IC5052	①	GND		(79)	4.9
	②	2.9		(80)	GND
	③	2.4		(81)	GND
	④	2.2		(82)	GND
	⑤	4.9		(83)	GND
	⑥	GND		(84)	GND
	⑦	0.4		(85)	GND
	⑧	0		(86)	GND
	⑨	0.5		(87)	GND
	⑩	4.9		(88)	GND
	⑪	1.9		(89)	GND
	⑫	0		(90)	GND
	⑬	-3.0		(91)	GND
	⑭	GND		(92)	GND
	⑮	GND		(93)	GND
	⑯	0.1	ICS102	①	2.2
	⑰	0.7		②	2.0
	⑱	0.1		③	2.5
	⑲	0.5		④	GND
	⑳	4.8		⑤	1.1
	㉑	4.8		⑥	GND
	㉒	GND		⑦	GND
	㉓	GND		⑧	0
	㉔	1.6		⑨	4.8
	㉕	4.9		⑩	4.9
	㉖	2.2		⑪	3.1
	㉗	3.9		⑫	GND
	㉘	2.2		⑬	GND
ICS101	①	2.4	ICS102	⑭	2.6
	②	GND		⑮	2.5
	③	4.9		⑯	4.0
	④	2.3		⑰	3.2
	⑤	2.3		⑱	4.9
	⑥	2.3		⑲	3.9
	⑦	GND		⑳	3.9
	⑧	GND		㉑	4.9
	⑨	GND		㉒	GND
	⑩	GND		㉓	2.1
	⑪	GND		㉔	0
	⑫	GND		㉕	4.9
	⑬	GND		㉖	2.2
	⑭	4.9		①	5.0
	⑮	4.9	ICS103	②	GND
	⑯	4.9		③	4.9

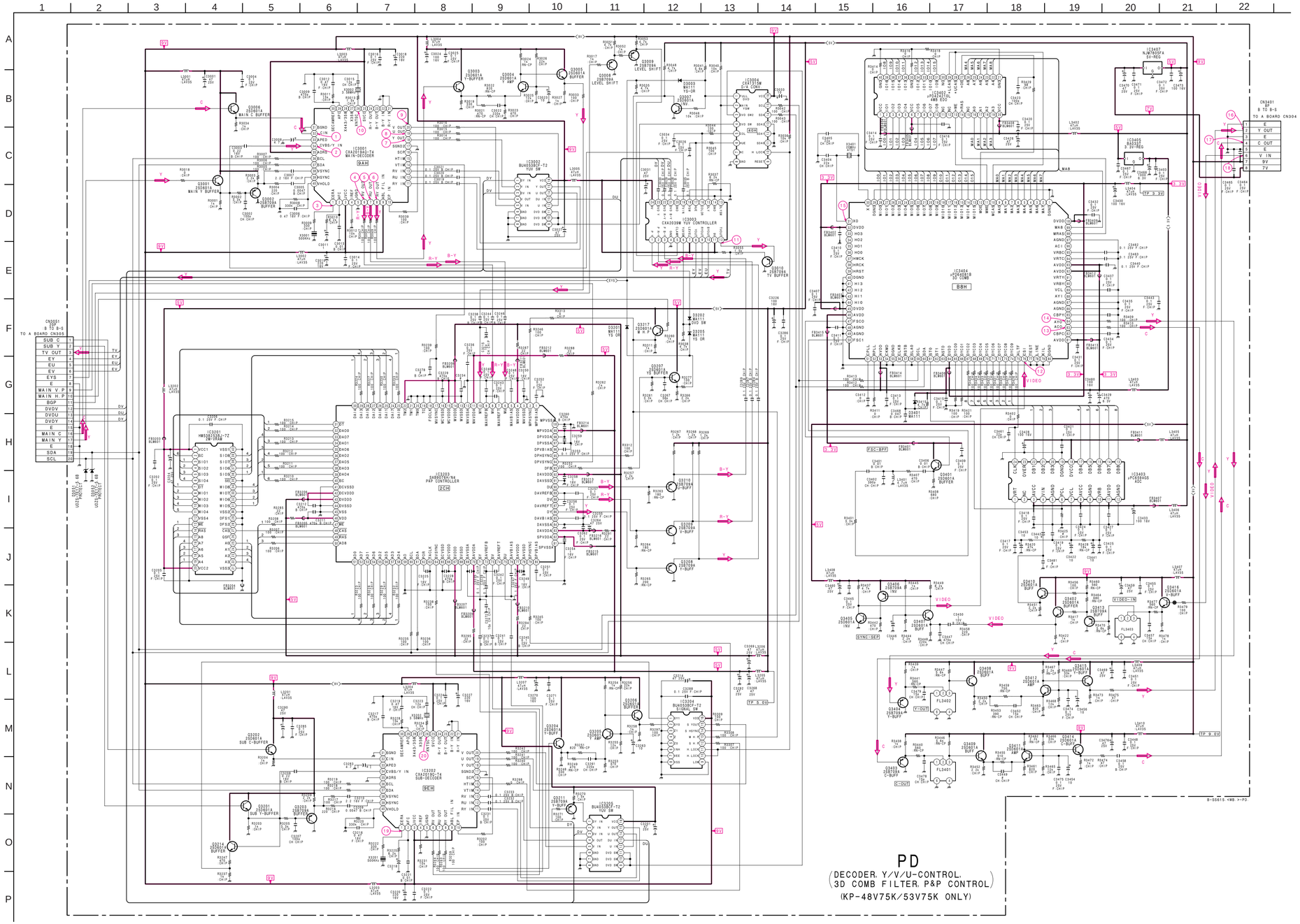
•All voltage are in V.
•Pin numbers which are not described are not used.

PT BOARD TRANSISTOR VOLTAGE LIST

REF.		VOL.	REF.		VOL.
Q5001	B	6.5	Q5101	B	2.5
	E	5.8		E	1.9
	C	8.8		C	5.0
Q5002	B	5.8	Q5102	B	0.9
	E	6.5		E	1.8
	C	GND		C	GND
Q5003	B	2.8	Q5103	B	0.9
	E	2.2		E	1.6
	C	8.5		C	GND
Q5004	B	2.9	Q5104	B	0.8
	E	2.2		E	1.5
	C	4.1		C	GND
Q5005	B	4.1	Q5105	B	1.9
	E	3.5		E	2.6
	C	8.5		C	GND
Q5051	B	0.4	Q5106	B	2.4
	E	1.0		E	1.7
	C	GND		C	4.4
Q5052	B	0	Q5107	B	2.4
	E	0.5		E	1.7
	C	GND		C	4.4
Q5053	B	*	Q5108	B	2.3
	E	*		E	1.7
	C	*		C	5.0
Q5054	B	0	Q5109	B	4.4
	E	0		E	5.0
	C	4.9		C	2.0
Q5055	B	0.5	Q5110	B	4.4
	E	1.1		E	5.0
	C	GND		C	2.0
Q5056	B	*	Q5111	B	1.5
	E	*		E	2.1
	C	*		C	GND
Q5057	B	0	Q5112	B	2.1
	E	0		E	1.5
	C	4.9		C	4.9

All voltages are in V.





PD BOARD IC VOLTAGE LIST

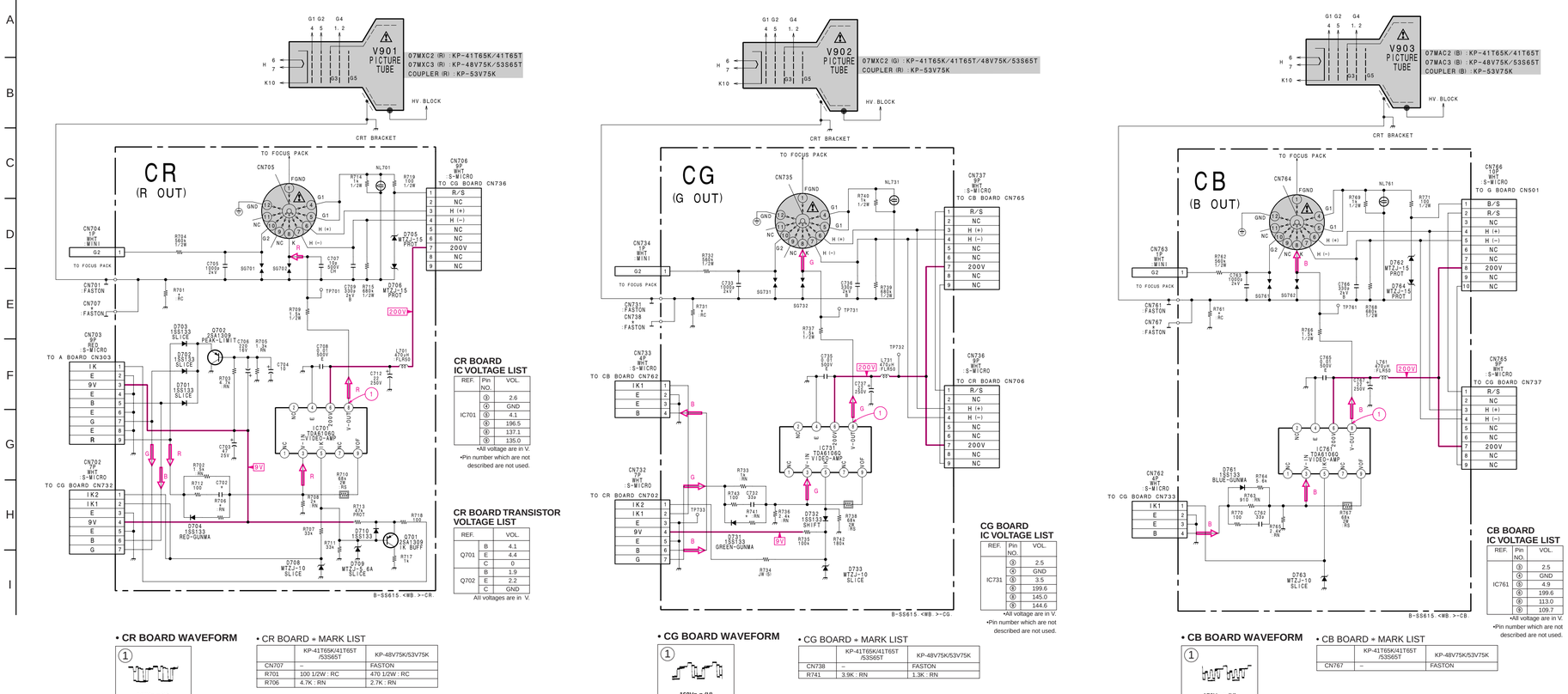
REF.	Pin NO.	VOL.	REF.	Pin NO.	VOL.	REF.	Pin NO.	VOL.	REF.	Pin NO.	VOL.	REF.	Pin NO.	VOL.	REF.	Pin NO.	VOL.
	①	2.3		①	0.2		⑰	GND		⑰	4.5		①	1.4		㉝	1.7
	②	4.1		②	0		⑱	GND		⑱	4.6		②	1.2		㉞	1.7
	③	8.9		③	0.4		⑲	8.8		⑲	4.9		③	1.3		㉟	0.7
	④	1.8		④	0.4		⑳	2.4		⑳	GND		④	1.3		㊱	5.0
	⑤	GND		⑤	4.4		㉑	4.6		㉑	0.2		⑤	1.3		㊲	1.6
	⑥	2.9		⑥	4.5		㉒	GND		㉒	GND		⑥	1.1		㊳	1.1
	⑦	2.9		⑦	GND		㉓	3.6		㉓	4.9		⑦	1.6		㊴	1.3
	⑧	3.3	IC3004	⑧	2.9	IC3202	㉔	4.0		㉔	4.9		⑧	0.7		㊵	1.2
	⑨	8.9		⑨	8.9		㉕	4.4		㉕	GND		⑨	1.0		㊶	1.4
	⑩	0.8		⑩	GND		㉖	GND		㉖	GND		⑩	0.6		㊷	1.9
	⑪	4.4		⑪	GND		㉗	4.7		㉗	4.3		⑪	1.4		㊸	GND
	⑫	4.3		⑫	GND		㉘	4.5		㉘	0.4		⑫	1.4		㊹	2.5
	⑬	4.3		⑬	4.6		㉙	3.4		㉙	0.4		⑬	1.5		㊺	2.3
	⑭	0.2		⑭	4.7		㉚	2.5		㉚	1.1		⑭	1.5		㊻	3.3
	⑮	0.8		⑮	8.9		㉛	0.7		㉛	1.8		⑮	1.5		㊼	GND
	⑯	GND		⑯	4.9		㉜	1.6		㉜	2.1		⑯	1.5		㊽	0
IC3001	⑰	3.4		⑰	0		㉝	0.6	IC3402	㉝	2.1	IC3402	⑰	1.7		㊾	GND
	⑱	3.0		⑱	0.2		㉞	GND		㉞	4.7		⑱	1.5		㊿	GND
	⑲	3.0		⑲	0.2		㉟	4.7		㉟	4.7		⑲	1.5		(51)	GND
	⑳	GND		⑳	0.2		㊱	2.2	IC3203	㊱	0.6		⑳	1.5		(52)	3.3
	㉑	GND		㉑	0.2		㊲	1.1		㊲	1.6		㉑	1.6		(53)	3.3
	㉒	8.9		㉒	0.7		㊳	1.8		㊳	GND		㉒	2.4		(54)	1.9
	㉓	2.4		㉓	11.2		㊴	1.1		㊴	4.9		㉓	1.0		(55)	GND
	㉔	5.5		㉔	0.8		㊵	0.4		㊵	4.4		㉔	1.0		(56)	GND
	㉕	GND		㉕	0.3		㊶	0.8		㊶	GND		㉕	1.3		(57)	0
	㉖	3.6		㉖	0.4		㊷	4.3		㊷	0.9		㉖	1.1		(58)	0
	㉗	4.0		㉗	GND		㊸	4.9		㊸	0.4		㉗	1.3		(59)	3.3
	㉘	4.6		㉘	3.7		㊹	4.9		㊹	2.0		㉘	1.5		(60)	GND
	㉙	8.8		㉙	2.0		㊺	0.3		㊺	1.1		㉙	0		(61)	GND
	㉚	4.7		㉚	0.7		㊻	4.9		㊻	0.4		㉚	1.3		(62)	2.9
	㉛	4.6		㉛	0.8		㊼	GND		㊼	1.0		㉛	1.3		(63)	GND
	㉜	3.9		㉜	0.8		㊽	GND		㊽	0.2		㉜	1.7		(64)	4.7
	㉝	3.2		㉝	0.7		㊾	GND		㊾	4.9		㉝	1.7		(65)	2.9
	㊳	2.7		㊳	0.7		㊿	GND		㊿	0		㊳	0	IC3404	①	0.2
	①	0	IC3201	㊴	4.9		(51)	GND		(51)	0.1		㊴	0		②	3.3
	②	0		㊵	GND	IC3203	(52)	GND		(52)	0.6		㊵	5.0		③	0.8
	③	0		㊶	0.7		(53)	4.9		(53)	1.6		㊶	2.7		④	0.8
	④	3.0		㊷	0.7		(54)	0.2		(54)	GND		㊷	1.9		⑤	GND
	⑤	3.0		㊸	0.7		(55)	0.2		(55)	4.9		㊸	2.1		⑥	0.2
	⑥	GND		㊹	0.7		(56)	0.2		(56)	4.9		㊹	1.8		⑦	2.6
	⑦	GND		㊺	2.6		(57)	0.2		(57)	GND		㊺	1.6		⑧	5.0
	⑧	GND		㊻	GND		(58)	0.3		(58)	1.3		㊻	GND		⑨	GND
IC3002	⑨	0.4		㊼	GND		(59)	0.2		(59)	3.0		㊼	2.4		⑩	1.2
	⑩	0.4		㊽	GND		(60)	0.2		(60)	3.0		㊽	5.0		⑪	3.0
	⑪	0.4		㊾	0.4		(61)	0.3		(61)	GND		㊾	GND		⑫	1.5
	⑫	3.0		㊿	0.4		(62)	4.9		(62)	GND	IC3403	㊿	1.9		⑬	1.5
	⑬	3.9		(51)	0.4		(63)	1.2		(63)	GND		(51)	2.1		⑭	4.5
	⑭	3.0		(52)	0.4		(64)	0.4	IC3204	(64)	GND		(52)	1.8		⑮	GND
	⑮	3.5		(53)	GND		(65)	0.8		(65)	1.6		(53)	GND		⑯	GND
	⑯	8.9		(54)	0.3		(66)	0.4		(66)	8.9		(54)	1.7		⑰	GND
	①	5.8		(55)	0.3		(67)	0.3		(67)	8.9		(55)	5.0		⑱	GND
	②	5.8		(56)	0.3		(68)	0.4		(68)	0.8		(56)	GND		⑲	3.3
	③	5.8		(57)	0.4		(69)	0.4		(69)	0.6		(57)	2.4		⑳	1.7
	④	GND		(58)	GND		(70)	0.4		(70)	0.6		(58)	3.0		㉑	1.8
	⑤	1.7		(59)	2.3		(71)	0		(71)	1.3		(59)	1.5		㉒	1.7
	⑥	2.3		(60)	4.1		(72)	GND		(72)	8.9		(60)	1.5		㉓	1.7
	⑦	8.9		(61)	8.9		(73)	4.9		(73)	3.7		(61)	GND		㉔	GND
	⑧	3.7		(62)	1.8		(74)	GND		(74)	3.9		(62)	1.6		㉕	GND
	⑨	3.9		(63)	GND		(75)	GND		(75)	3.9		(63)	1.6		㉖	1.8
	⑩	3.7		(64)	3.0		(76)	3.7		(76)	3.0		(64)	1.5		㉗	3.3
	⑪	8.9		(65)	2.9		(77)	3.7		(77)	3.0		(65)	1.5		㉘	3.3
	⑫	3.4		(66)	3.3		(78)	3.7		(78)	GND		(66)	1.5		㉙	1.9
IC3003	⑬	GND	IC3202	(67)	0.8		(79)	2.6		(79)	GND		(67)	1.5		㉚	1.9
	⑭	2.4		(68)	4.4		(80)	0.8		(80)	8.9		(68)	1.4		㉛	GND
	⑮	4.4		(69)	4.3		(81)	0.7	IC3205	(81)	0.4		(69)	0.6		㉜	0.6
	⑯	4.5		(70)	4.4		(82)	0.7		(82)	0.4	IC3404	(70)	1.0		㉝	1.7
	⑰	0.1		(71)	0.2		(83)	0.7		(83)	3.0		(71)	1.8		㉞	3.3
	⑱	6.2		(72)	0.8		(84)	0.8		(84)	3.9		(72)	1.3		(1)	5.1
	⑲	GND		(73)	0.7		(85)	0.7		(85)	2.9		(73)	1.1	IC3405	②	GND
	⑳	5.8		(74)	GND		(86)	0.7		(86)	3.0		(74)	1.1		③	3.3
	㉑	5.8		(75)	3.4		(87)	0.7		(87)	8.9		(75)	1.5		④	7.5
	㉒	5.8		(76)	3.0		(88)	0.7	IC3402	①	5.1		(76)	1.3	IC3407	⑤	GND
	㉓	8.9		(77)	2.9		(89)	GND		②	1.9		(77)	1.3		⑥	5.1

•All voltage are in V.
•Pin number which are not described are not used.

PD BOARD TRANSISTOR VOLTAGE LIST

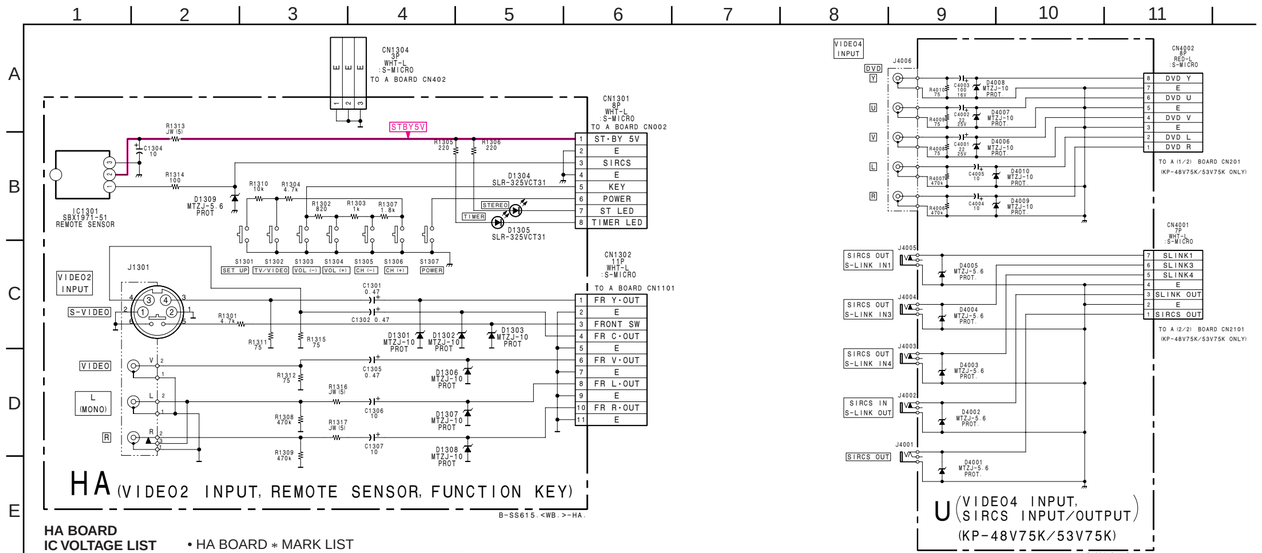
REF.		VOL.	REF.		VOL.	REF.		VOL.	REF.		VOL.
	B	3.3		B	3.2		B	4.2		B	3.0
Q3001	E	2.6	Q3201	E	2.5	Q3211	E	4.9	Q3408	E	2.3
	C	8.9		C	8.9		C	2.1		C	4.2
	B	3.4		B	4.2		B	2.5		B	3.1
Q3002	E	4.0	Q3202	E	3.6	Q3214	E	1.9	Q3409	E	2.4
	C	GND		C	8.9		C	8.9		C	8.9
	B	3.3		B	2.5		B	1.1		B	3.4
Q3003	E	2.7	Q3203	E	3.2	Q3217	E	0.5	Q3410	E	2.7
	C	8.9		C	GND		C	5.1		C	8.9
	B	3.1		B	2.9		B	1.9		B	2.4
Q3004	E	2.4	Q3204	E	2.3	Q3401	E	1.3	Q3411	E	1.8
	C	4.1		C	8.9		C	3.3		C	6.7
	B	4.1		B	3.1		B	4.0		B	2.3
Q3005	E	3.4	Q3205	E	2.4	Q3402	E	3.4	Q3412	E	1.8
	C	8.9		C	3.6		C	8.9		C	6.0
	B	4.2		B	3.6		B	1.8		B	4.3
Q3006	E	3.6	Q3206	E	3.0	Q3403	E	2.4	Q3413	E	3.7
	C	8.9		C	8.9		C	GND		C	GND
	B	0.2		B	0		B	1.7		B	6.7
Q3007	E	GND	Q3207	E	0	Q3404	E	2.4	Q3414	E	6.0
	C	2.9		C	5.1		C	GND		C	8.9
	B	0.4		B	0.4		B	0.1		B	6.0
Q3008	E	1.0	Q3208	E	1.0	Q3405	E	GND	Q3415	E	5.3
	C	GND		C	GND		C	4.5		C	8.9
	B	1.1		B	1.1		B	5.0		B	4.3
Q3009	E	1.7	Q3209	E	1.8	Q3406	E	5.1	Q3416	E	3.7
	C	GND		C	GND		C	0.1		C	8.9
	B	3.4		B	1.1		B	3.5			
Q3010	E	4.0	Q3210	E	1.8	Q3407	E	3.8			
	C	GND		C	GND		C	5.0			

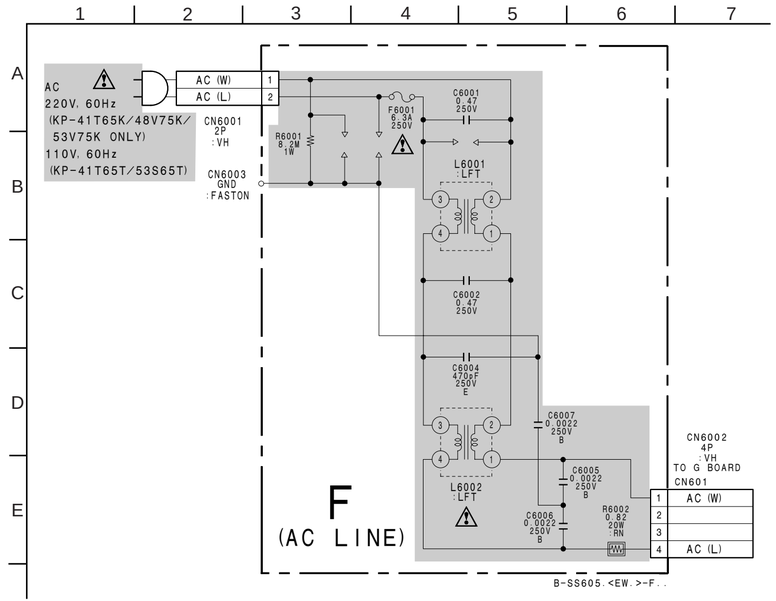
All voltages are in V.



Schematic diagram

← PD board





HA BOARD
IC VOLTAGE LIST

REF.	Pin NO.	VOL.
IC1301	①	5.0
	②	5.0
	③	GND

•All voltage are in V.

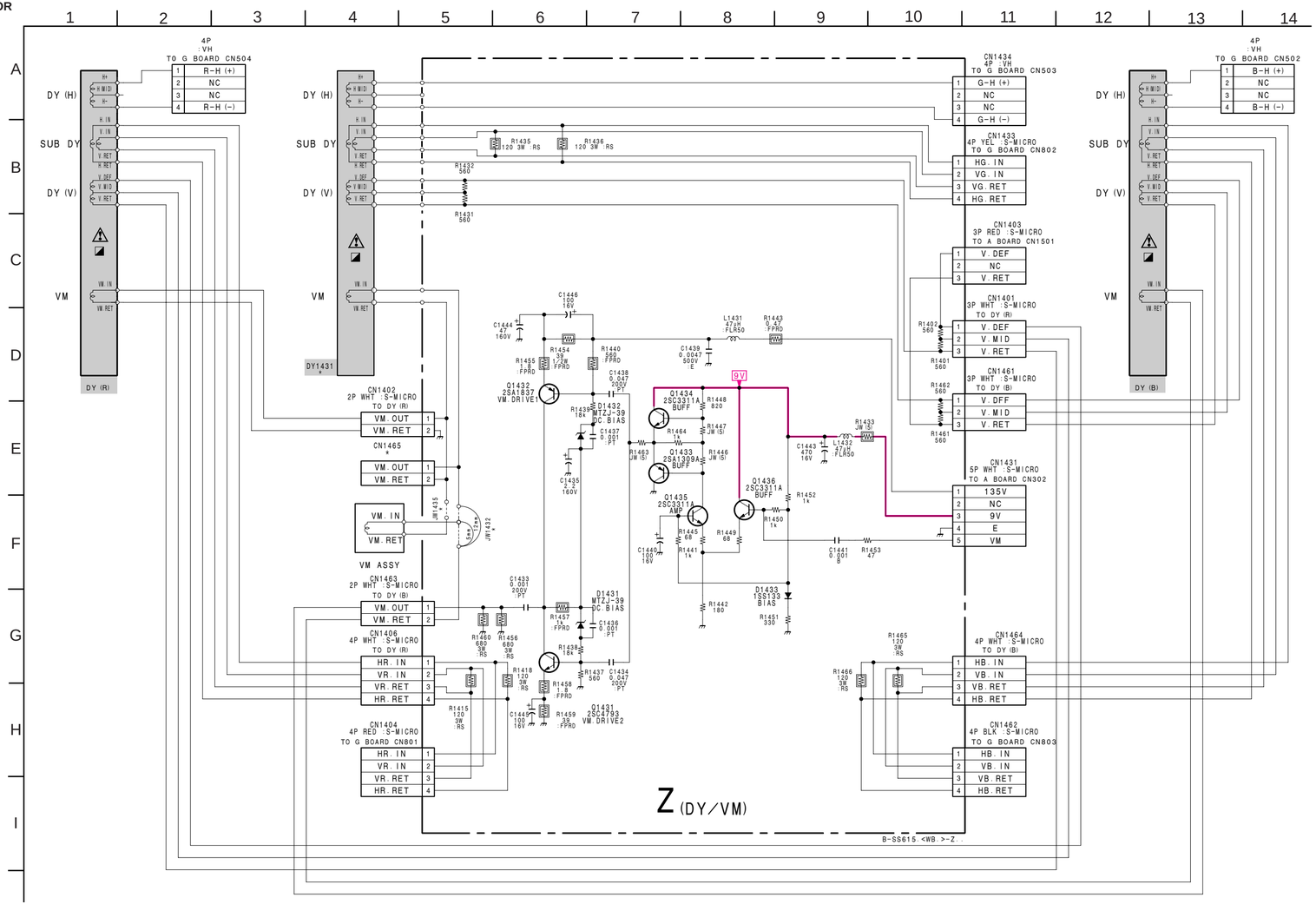
• HA BOARD ∗ MARK LIST

	KP-41T65K/41T65T /53S65T	KP-48V75K/53V75K
C1301	0.1 : PT	0.47
C1305	0.1 : PT	0.47

HA [VIDEO INPUT, SIRCS, FUNCTION KEY]

Schematic diagram
Z board ➡

Z BOARD TRANSISTOR VOLTAGE LIST

REF.		VOL.
Q1431	B	0.9
	E	0.5
	C	67.2
Q1432	B	134.4
	E	138.4
	C	67.2
Q1433	B	5.7
	E	5.8
	C	GND
Q1434	B	5.7
	E	5.8
	C	9.0
Q1435	B	2.7
	E	2.1
	C	5.7
Q1436	B	2.7
	E	2.1
	C	9.0

All voltages are in V.